

Everyday *Kintsukuroi*: Mending as Making

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‘To think about repair requires us to recognize our own failures and imperfections and those of the world we live in, to take seriously what we may be unreflectively inclined to regard as the necessary but uninventive and uninspiring work of repairing the damage due to such flaws. It means attending to properties in things—their repairability—and capacities in individuals—their talents for mending—towards the atrophy of which there appear to be powerful economic incentives.’ (Spelman, 2003:p.138)

Introduction

Kintsukuroi (or *kintsugi*) is the Japanese art of repairing cracks in broken pottery with gold, silver or platinum lacquer. It also expresses the idea that breaking and mending can be an important part of the life of an object, adding to its beauty and meaning. Although this concept has its origins in a cultural context far from the back street repair workshops that we focus on in this chapter, there is, as we hope to show, a clear resonance with the work carried out in these places. In 2010 we began a collaborative research project that brought together two cultural geographers and a photographer, Steve Bond, to document the visual and material cultures associated with the making and mending of everyday objects in southwest England. We named our venture ‘Small is Beautiful?’ in gentle deference to E. F. Schumacher’s classic 1973 collection of essays, a text that championed the urgent need for human societies to forge forms of living that were more economically, socially and ecologically sustainable. Our project aimed not only to record the material cultures associated with the practice of mending ordinary objects, but also to test and refine collaborative methods for the integrated investigation of visual, material, and social relationships. In addition, we wanted to engage academic and non-academic communities in conversations about everyday aesthetics, cultural value, and economic sustainability.

In this chapter we chart the project as it evolved, reflecting on the social and political moment in which the research was placed, and sharing some of the insights that arose from reception of the images that we created. We also explain our commitment to the photograph as something *made* through the use of specific tools and expertise, and draw out the parallels between our making and the forms of making we encountered in the places we documented. Finally, we consider how collaborative practice—in this instance geographers working with a photographer—can illuminate rich and embodied fields of action in which the boundaries between material objects and those who make, repair and appreciate them are continuously remade.



Geographies of mending

In both academic and applied contexts, practices of repair and maintenance have often been eclipsed by a focus on making and innovation, a bias evident in fields as diverse as tech culture (Chachra, 2015) and public infrastructure (Russell and Vinsel, 2017). Recently, however, academics and activists have begun to establish repair and mending as a vibrant field of enquiry (Lepawsky et al, 2017; Jackson, 2014; Graham and Thrift, 2007), and also to expose the ways in which repair must be understood as a creative practice in its own right (Bond, DeSilvey and Ryan, 2013). Some of this recent work focuses on less developed economies in the global south (as well as poorer communities in affluent societies), where the salvage, repair and creative reuse of material objects remains an essential survival strategy rather than a lifestyle choice (Callén and Criado, 2015; Houston, 2017). In contrast, practices of mending have been relegated to the periphery of productive economic activity in developed economies, forced into the margins by the sheer scale and dominance of mass consumer culture. Consumers who once regarded purchased objects—from clothes to computers—as worthy of maintenance and repair, now widely accept them as entirely disposable (Cooper 2005; Van Nes 2010). Moreover, this

disposability relies on a wider division of labour based on flows of end-of-life goods from the global North to the global South (Gregson et al 2010; Crang et al, 2013).

Partly in response to the dominant culture of obsolescence and disposability, over the last decade a range of social movements have championed the revival of making and mending, with the formation of grassroots initiatives focused on the repair, reuse and ‘upcycling’ of material items hitherto regarded as waste (Janigo et al, 2017). Some of these movements—most often those associated with metropolitan, relatively privileged socio-economic enclaves—invest such activities with a political critique of capitalist society (Fickey, 2011; Bramston and Maycroft, 2014). The revival of interest in mending and repair is often (either consciously or not) linked to older seams of thought and practice: the ‘head, hand, heart’ sentiments behind the Arts and Crafts movement of the nineteenth century resurface on lifestyle blogs; the WWII ‘make do and mend’ mantra is fetishized by a new urban elite. Popular interest in repair is recursive, reemerging at key points, such as in the counterculture of the 1960s, when Stewart Brand’s *Whole Earth Catalog* (1968) elevated the virtues of ‘hacking’ over mundane and mainstream ‘planning’ (Morozov, 2014).



We began our research a couple of years after the 2007-2008 financial crisis, just as the hard realities of ‘austerity Britain’ and economic recession began to force many households to consider a return to ‘make do and mend’ out of necessity. As the project went on, we realized that our research coincided with a broader rekindling of interest in craft and making (Banks, 2010;

Charny, 2011; Thomas et al, 2013; Hackney, 2013), and a rise in demand for the bespoke and handmade (Luckman, 2015). We also became aware of the emergence of new kinds of ‘craftivism’ and DIY hacker cultures, mediated by digital technologies and drawing in other communities of interest and expertise (Orton-Johnson 2014). Although our research project was forged in the context of this upwelling of interest in making and mending, its focus was on low-profile, small-scale repair businesses, whose proprietors were generally unaware of the repair revival taking place in wider popular culture.

Southwest England has few major urban centres, but an extensive network of craft-based and creative industries, making it a distinctive location in which to document cultures of repair (Thomas, Harvey and Hawkins, 2013; Luckman, 2012). Over two years, we made recurring visits to twenty small businesses in the region. We selected the businesses based on the type of work they carried out and their willingness to participate in the project. At a minimum, participation involved one visit from a photographer/geographer pair, and an informal interview. We also invited business owners and employees to attend one of four ‘public conversations,’ which were held in connection with exhibitions of Steve Bond’s photographs. Altogether, representatives from thirteen of the twenty businesses participated in at least one of these events, some speaking with researchers in front of an audience of local residents, shop customers, artists, photographers and academics.

This project began with the simple aim to make local mending cultures visible. In doing so, as with the Japanese mending tradition of *kintsukuroi*, we wished to highlight, rather than disguise, the complex biographies of objects. In embarking on this project, we recognised the inadequacy of the overgeneralised concept of the ‘throwaway society’ (Gregson et al, 2007). Rather than following the linear trajectories of objects from consumption to disposal, we wanted to understand the range of different values associated with repair practices (Thompson, 1979). Emotional value, relational value, aesthetic value and ecological value are all expressed, in various ways, in the desire to mend a broken object. In seeking repair, people are guided by concerns for thrift and durability, but they also place value on non-commoditised aspects of repair, including the workplaces where it is carried out and the social relations embedded in these places. In this chapter, we focus on two themes that emerged from the research—the parallels between our research practice and the practices of making and mending that we encountered in the field; and way in which a shared spirit of ‘making’ animated our public conversations and encouraged people to reflect on wider issues of cultural value, social cohesion and economic change.

Research-craft and the expanded exhibition

The Small is Beautiful? project originated at a moment in cultural geography when discussions about the relationships between geography, visual culture and art were beginning to engage more fully with the potential of collaborative practice (Hawkins, 2014). It was becoming commonplace for geographers to work alongside artists and integrate creative visual methodologies into their work. This project sought to extend such work, drawing on visual and sensory methodologies pioneered in anthropology (Pink, 2009) and responding to calls in geography for ‘visual and material research that unravels, disturbs and connects with processes, embodied practices and technologies’ (Rose and Divya Tolia-Kelly, 2012:p.3). In this project, we chose to adopt an approach that treated the photograph not as an art object—produced primarily for visual consumption and contemplation—but as a crafted object, made for a particular purpose, to be (as Steve was fond of reminding us) both ‘useful and beautiful’. Like the people in the repair workshop we encountered, we made choices about materials and processes, and applied (and acquired) skills through the process of completing certain tasks. Steve’s expertise in the photographic craft was essential to this process, and we wanted to make this visible. As it happened, this element of the work became central to the exhibition of the photographs, and the quality and content of the conversations they provoked.

When we introduced our project to potential participants, we initially explained that we were interested in documenting places where ordinary objects were repaired. We quickly realised, however, that the people who were receptive to our project thought of what they did as much more than simple ‘repair’. For these people, mending was a complex practice that integrated elements of problem-solving and invention, as well as, often, community service and social work. One of our menders told us: ‘What’s a repair? It could be a modification, or an improvement...I respond to problems...the problems of today... I look at a problem and consider all of the options in my repertoire.’ Influenced by this perspective, we began to think about the repairers we were encountering as skilled practitioners of ‘craft’ (Adamson, 2007), keepers of tangible and tactile skills lost to many workers in modern knowledge economies (Sennett, 2009; Crawford, 2010). Steve’s photography evolved in response to this awareness. As photographic maker, Steve documented an object, setting or process that was already imbued with creative potential by its owner and handler. By the end of the project, the repaired objects we had encountered included: shoes; clothes; books; sewing machines; motorcycle seats; ironwork; clocks and watches; typewriters; small electrical appliances; musical instruments; bicycles; small engines; ceramics; and cane chairs.



After Steve had produced the photographs, we were faced with the task of ordering and classifying them for viewing and display. Rather than judging the photographs on grounds of artistic merit or on stylistic grounds, we worked together in what, to an outsider at least, might appear to be a much more intuitive and fluid set of criteria. At the heart of such selection lay a kind of ‘capacious aesthetics’, an accommodation of feeling for the material and visual qualities of the images (Highmore, 2016). We would lay prints of the photographs on the floor or on a table and reorganise them in different configurations, circling the images and each other, waiting for particular images and sets of images to catch our eyes. As we became attuned to the affective qualities of Steve’s photographs we found that certain images seemed to want to be together, in pairs or triplets, or in series, drawing out certain patterns and relationships (we termed our family groupings of photographs ‘SiBlings’).

Our exhibition strategy extended the craft sensibility, and focused on treating the exhibited photographs as objects in their own right, with a material as well as a visual presence in the world. For our first series—seven sets of three—we mounted the prints on 3mm aluminium. This involved complex deliberations with a printer in Exeter, and the prints were sent to Yeovil for mounting, where some random but necessary cropping occurred. We then created a set of 21 tiny shelves, using aluminium architrave with a conventional application in shower installations. A later set of five images was printed on large sheets of canvas. Sorting out the technicalities of hanging these ‘flags’ involved three return visits to an Exeter ironmongery. At the exhibitions, we

encouraged people to touch and handle the photographs that were mounted on aluminium, to know them with their hands as well as their eyes. The mounted photographs, as well as the larger prints and the flags, accumulated signs of their movement through the world—scratches and dings, nicks and smudges.



Taking our families of photographs to four exhibitions and two conferences over a year and a half—from Kendal, Cumbria to St Austell, Cornwall¹—allowed us to share the images and witness the effect of their affective qualities on a wider audience of makers, menders, artists, academics and shop customers. Each exhibition prompted extended discussions about mending, menders and things. The project exhibitions were organized not merely to display the photographs, but as extended forms of visual ethnographic method. In this sense, the exhibitions functioned as creative events, part of the ‘expanded creative register’ (Hawkins, 2014:p.13) where artists, critics and audiences co-create sets of meanings around the photographs. The photographs sparked reflection on aesthetics and politics, nostalgia and future potential (Pink,

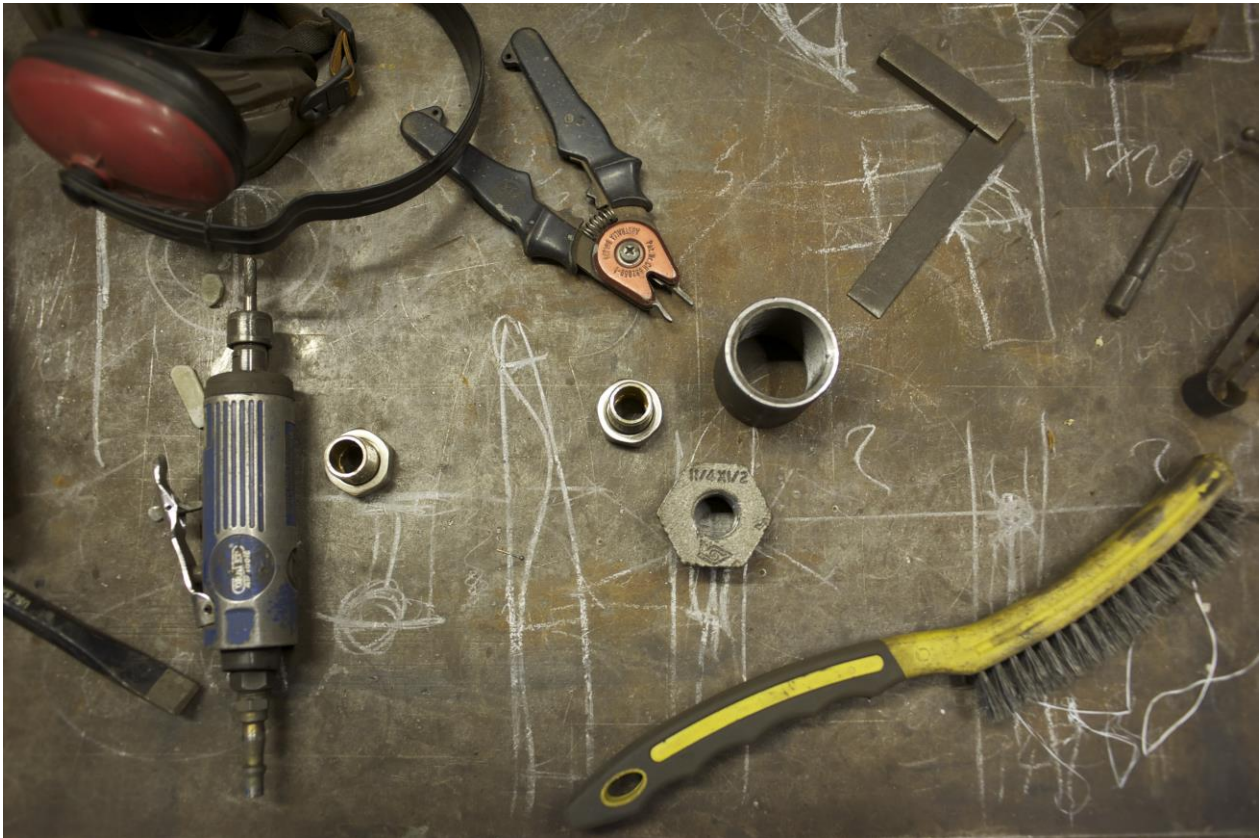
¹ Exhibitions were held at the following times and places: June 2011, Plymouth, Devon; September 2011, Bridport, Dorset; April 2012, Exeter, Devon; and July 2012, St Austell, Cornwall. Images were also displayed at conferences, including: Mend*rs Research Symposium, July 2012, Kendal, Cumbria, and the International Visual Methods Conference, Open University, Milton Keynes, July 2011. See www.projects.exeter.ac.uk/celebrationofrepair/ for further details and a portfolio of images.

2013). These themes were held in tension at the moment of reception, as people stood before the images and made sense of them together, and talked about them in larger assembled groups.



In the exhibited photographs, repair shop owners saw their places of work in ways that they had never before done so, and found they could relate to them in new ways. They also were prompted to compare their own work and experience with that of other repairers. Close up photographs of tools, surfaces and objects elicited discussions about the properties of materials, and the appropriate tools for specific tasks. Menders often were moved to comment on the skill involved in surrendering themselves to the agency of the materials. It became clear that many menders see repair less as a straightforward process of imposing form on materials than as a series of interventions in what Tim Ingold terms ‘fields of force and flows of material’ (Ingold, 2009:p.91). Making is not simply the human assertion of designed form onto passive material; rather, form is generated as a co-production in which human makers work with and are shaped by the animate, worked-upon matter (Ingold, 2013). The makers and repairers involved in this project often understood this process in quite intuitive and humorous ways. Some of the menders testified to how objects have an obdurate quality, one that might helpfully be captured in the concept of ‘resistentialism,’ a concept (coined originally by the British humorist and critic Paul Jennings) which has recently found new currency in renewed concern for the ways that inanimate objects resist humans’ attempts to transform or work with them (Jennings, 1950; Elster, 2003). The craft of repair always involves, in some sense, the capacity to accommodate the

independence of things and the vital materiality of human and non-human bodies (Hitchings, 2006; Bennett, 2010).



Despite the absence of human bodies in many of Steve's photographs, the images capture the quality of the repair workshops as embodied spaces, and people at the exhibitions often commented on the sense of suspended animation expressed by the arrangement of tools and materials, as if the worker has just stepped away from the bench. These places have evolved around the needs of their human workers and the material qualities of the items they work with. Just as a quarry might be thought of as a sculpture in its own right (Paton, 2013), repair workshops are themselves sympathetic embodiments of repair, places whose surfaces, shapes, colours and smells reveal the accreted processes through which menders accumulate familiarity with materials, tools and objects. Steve's photographs responded to the distinctive quality of the tools and materials used in repair workshops, often highlighting the sense of 'fluidity' that emerges between a tool, its operator and the space around it. Like Steve's camera, the repairers' tools are appropriate technologies, pressed into service of a range of requirements; in skilled hands they adapt in a fluid fashion to the demands placed upon them (De Laet and Mol, 2000). The photographs also exposed the capacity—often expressed by the participants in this project—for making and mending to provide a purposive engagement with the material world, in a tactile materialization of both environmental and social values (Brook, 2012).



By giving close scrutiny to the sites and materials of repair, the photographs encourage us to recognise that repair is a process of creative intervention that does not seek to reverse entropic processes of decay, but merely postpones such inevitable processes, temporarily restoring an object's use, purpose and value to its owner (DeSilvey, 2006). Like the act of repair itself, the photographs command detailed attention to the material qualities of objects, while they also carry traces of cultural memory from the objects being repaired into a parallel visual and material register. The blacksmith who participated in the project told a story of a woman who came into his shop with an old copper jug that had been dented. The woman told him that her grandchildren had been visiting, and in a chaotic moment involving the dog, the cat, and children the jug had been knocked off a shelf. She asked, 'Can you knock the dent out?' The blacksmith replied, 'Of course I can, but you will never tell that story again, because the dent is the trigger for the story'. The woman left the dent as it was. At the exhibitions and in the shops themselves, owners of shoes, clothes and bags proudly told us of how their much loved items had been kept alive by the attentions of menders like those involved in the project, through countless patches and repairs. In this sense, repaired articles as well as the places of repair, are 'assemblages' that emerge from networks of materials and entangled agencies (Edensor, 2011). Like photographs, acts of repair are gestures of temporary stabilisation, momentarily fixing material in flux and decay.

Some ethnographic research on consumer objects in the home has shown how practices of repair and maintenance are central to the processes whereby consumer objects assume their

identities (Gregson, Metcalfe and Crewe, 2009). Different kinds of restorative acts, from cleaning to full-scale repair, have varying effects on the status of consumer objects, and failure to provide maintenance and repair can result in an object's devaluation and disposal. Although this research project was not concerned with the position of consumer objects in the home, it showed that, for those who frequent repair shops, the repair of objects is often undertaken out of appreciation for their emotional and sentimental value—rather than a concern for their status as consumer objects. Often, these values are entangled with memory, and with the connection the object opens to past experience—a quality also attributed to the photographs. An audience member at the Bridport exhibition said, 'I can smell my grandfather's workshop when I look at these photographs'. Other people commented about the way the images triggered memories of tactile sensations, of other places and pasts. They wanted to share these memories, and the exhibitions became spaces for quite intimate exchanges, often between strangers. There were many animated conversations in front of the images on display, with people talking about the objects in the images, how they were made and used, and then moving on to discussions about other things—lamenting the 'throwaway society' and the decline of local shops, talking about their personal experience of cultural and economic change. Engagement with the photographs highlighted how the affective quality of repair workshops does not come simply from objects themselves but from the entire affective apparatus of the place and its contents, including its smells, atmosphere, colours, and the unpredictable arrangement of evocative 'stuff' (Boscagli, 2014; Anderson, 2014).

Making value, making relationships

Some anthropological scholarship posits a general distinction between 'Western' and 'non-Western' practices of exchange and value, and suggests that Western practices are generally characterized by impersonal relationships, where things are understood as inanimate commodities in monetized systems of exchange (Kopytoff, 1986). 'Non-Western' exchange practices, by contrast, are shown to exhibit revealing and often very personal entanglements between and among 'things' and 'people' (Napier, 2014). Yet, our investigations with people in southwest England who engage with repair showed that in this context the boundaries between 'things' and 'people' are cut through with emotional, affective and sensory connections (Chin, 2016). Several of the workshops we visited also functioned as rescue homes for temporarily abandoned objects. Stick of Lostwithiel housed a museum of rare shoes and other related items. Similarly, Sew-Quick in Falmouth (now moved to a new premises in Penryn), rescued various items from the brink of extinction (including an industrial iron and a 1970s sewing machine) not in pursuit of financial benefit but for the love of these items and the pleasure taken in exercising restorative

skill in their care. The transactions undertaken within repair workshops often have powerful socially integrative effects by fostering shared human appreciation and care for the material qualities and meanings of things. One of the menders involved in the project commented that he loved rescuing and reinventing objects that would otherwise have been discarded. He remarked, 'I love that side of it where you take something that's been beaten up and used and then turn it back into something that is usable again.' He also commented on his appreciation for the research, and its recognition of his work: 'I just think it's marvelous that you guys have ... caught our vision for it... because quite often we're in little back street shops where people don't find us unless by chance.'



Over the course of the project we came to understand that people employed in mending and repair trades understand their relationship to the objects and materials they work with, and to the communities where they are located, primarily as one of service and vocation. They think of themselves as makers, inventors and creators, who specialise in the skilful manipulation of materials and take pleasure in keeping things alive; they actively resist characterisations of their work as being 'just repair' or as purely about financial exchange. Indeed, repair workshops often involve social transactions that confound bald economic logic, certainly of the type generally found on the high street. Several loyal repair shop customers told us about how they often struggled to convince repairers to accept adequate compensation for their labour. One man told us how he had his vacuum cleaner totally rewired, but the shop proprietor 'only wanted £5 and

wouldn't take any more'. When we first visited Stick of Lostwithiel, Caitlin's rucksack zip had just broken. The proprietor repaired it on the spot but refused to charge any more than the cost of the zip, prompting Caitlin to purchase a £4.60 container of NikWax. It quickly became clear to us that the activities in repair shops frequently involved values that were not recognized by either party as reducible to monetized exchange, but evoked instead wider values of care, craft and community. In recognition of the more-than-monetary values being created and nurtured in repair workshops, customers sometimes sought to respond in kind by giving a gift in exchange: a pot of homemade jam, or a bunch of flowers.



Such skills, and such relationships, are endangered commodities in the twenty-first century. The past 50 years has seen the disappearance of many of repair-based businesses from U.K. communities and high streets. The remaining businesses find that their skills and expertise are in high demand, yet many of these businesses are run by aging proprietors with no succession plans (indeed some project participants, including Biggleston's of Hayle and Bath Typewriter Service, have closed their doors since the research began in 2010). Evidence from a related research project suggests that the regional repair industry is poorly supported and in decline, with many repairers having to supplement their income with other forms of employment (Shears, 2014). The most resilient businesses we worked with were family concerns, with the potential for some generational continuity, but even these establishments faced uncertain futures.

There is some evidence that the tide may be turning, with repair industries poised to benefit from drives by institutions and governments to reduce waste, lower carbon emissions and ‘mainstream’ sustainable development by prolonging the useful life of consumer objects and encouraging design for repairability (DEFRA, 2011a, 2011b, 2013). But there remains a deep disconnect between well-intentioned policy statements and the practicalities of economic survival for businesses like those we studied. The transition from dependence on planned obsolescence and disposability will involve promoting ‘emotionally durable design’ to build more meaningful and sustainable relationships between consumers and their possessions (Chapman, 2005). In this latter task, designers and consumers have much to learn from everyday menders, who are skilled in the arts of sympathetic magic required to restore valued objects to a serviceable condition, and who take pleasure in the aesthetic properties of objects as well as their transformation over time. Acts of restoration and repair are a vital part of the social lives of consumer objects. Such acts, from cleaning and maintenance to repair and restoration, change how consumers relate to objects. Repairers act, in a sense, as midwives in the birth of new relationships between people and their objects. In this way repair is a highly significant means of rekindling the aura of an object via production, rather than consumption (Gill and Lopes, 2011).

The craft skills and connected communities of making and mending enable new forms of pleasurable competence, as well as increased social wellbeing and social capital (Crawford, 2010; Gauntlett, 2011). As Gauntlett puts it: ‘making *is* connecting’. Here we can substitute ‘mending’ for ‘making’ since to mend something is also to connect materials and ideas together; to connect people to other people; and, finally, to connect to menders with their wider social and physical environment (Gauntlett, 2011, p.2). It is notable how accounts of ‘makers’ and ‘hackers’ are now just as likely to focus on the places and spaces where they practice as the things they actually do (Davies, 2017). Like the workshops surveyed in this project, the ‘hackerspaces’ and ‘makerspaces’ mushrooming all over the world are often social spaces where tools, objects and makers come together in unique configurations with distinctive affordances (Kostakis, Niaros and Giotitsas, 2015). Their antecedents are to be found in the repair workshops that once were to be found all over the country, a few of which are documented in this project.

Conclusion

In recent years, much of our everyday language has become dominated by the nomenclature of neoliberal economic hegemony: a discourse of services, consumers, choice and markets, where monetary value is preeminent and social goods are subservient to the pursuit of self-interested ends (Massey, 2013). However, we found the language of value and exchange encountered in

spaces of repair to be rather different to that prevalent in other areas of social and economic life. The common sense of repair shops is instead one characterised by a language of problem-solving and social exchange in which monetary interests—though certainly present—are located on the margins. Just as important in this discursive universe are expressions suggestive of the social and emotional values associated with objects, and the aesthetic and practical qualities of their material constituents and potential reparability (Spelman, 2002). The object lies at a nexus of material entanglements and social relationships, which extend between the object's custodian and its repairer.

The menders encountered in this project, together with the communities that they serve, enact key elements of a more sustainable and equitable economic framework (Gibson-Graham, Cameron and Healy, 2013). Practices of repair implicitly reframe and reclaim the economy as a space for ethical action, to be shaped for the wellbeing of individuals, communities and environments. They also prompt dialogue about how we consume, and how we can best ensure preservation of common resources. Finally, the act of repair is a crafted act of investment in the future. These repair workshops can thus be considered as important, localised 'generative spaces' for a reconfigured circular economy (Hobson, 2016). As we have shown in this chapter, one of our motivations was to reconsider and call attention to neglected world of workplaces and practices of repair. Yet, as we discovered, many of the makers and menders we encountered are far from neglected or unappreciated by their loyal customers and the communities of which they are a part. Professional and amateur menders are eloquent and passionate about the places where they live and work, the skills and services that they perform, and the people who bring their worries and wares to them for rescue and reinvestment.

The collaborative, conversational ethos that guided our project effectively highlighted the shared social practices and pleasures that cluster around extending the useful lives of material objects. The use of photography in particular helped us understand of the affordances of objects, and the values associated with them. Treating the photograph as a crafted object in its own right—bound up in material processes of editing, printing, mounting, display, handling, wear and repair—emphasised the embedded labour in photographic practice, and opened up a sympathetic resonance with the mending and making practices we were interested in. Photographic exhibitions in public spaces provided the context for engaged and meaningful engagement, and the generation of valuable insights and observations that fed back into our research in various ways. Photographs acted as a catalyst for exchange between people who may not otherwise have had the opportunity to encounter each other and share their experiences. The images created the conditions of possibility for public conversations about—among other things—economic change,

social resilience, sustainability and material memory. As geographies and practices of mending attract growing attention from practitioners, activists and academic researchers, it becomes ever more important to craft methods that will allow us to consider how cultures and spaces of mending are produced, and made durable.

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References

Adamson, G. (2007) *Thinking through Craft*. London, Bloomsbury.

Anderson, B. (2014) *Encountering Affect: Capacities, Apparatuses, Conditions*. Farnham, Ashgate.

Banks, M. (2010) Craft labour and creative industries. *International Journal of Cultural Policy*. 16 (3), 305–321.

Bennett, J. (2010) *Vibrant Matter: A Political Ecology of Things*. Durham, Duke University Press.

Bond, S., DeSilvey, C. and Ryan, J.R. (2013) *Visible Mending: Everyday Repairs in the South West*. Axminster, Uniformbooks.

Boscagli, M. (2014) *Stuff Theory: Everyday Objects, Radical Materialism*, London, Bloomsbury.

Bramston, D. and Maycroft, N. (2014) Designing with Waste. In Karana, E., Pedgley, O., Rognoli, V. (Eds) *Materials Experience: Fundamentals of Materials and Design*. Oxford, Butterworth-Heinemann, 123-133.

Brook, I. (2012) Make, do, and mend: solving placelessness through embodied environmental engagement. In Brady, E. and Phemister, P. (Eds) *Human-Environment Relations: Transformative Values in Theory and Practice*. London, Springer, 109–120

Callén, B and T. Criado (2015) Vulnerability tests: matters of “care for matter” in e-waste practices. *Technoscienza: Italian Journal of Science and Technology Studies*. 6 (2), 17-40

Carr, C. and Gibson, C. (2016) Geographies of making. *Progress in Human Geography*. 40 (3), 297–315.

Chachra, D. (2015) Why I Am Not a Maker. *The Atlantic*. Available from:
<http://www.theatlantic.com/technology/archive/2015/01/why-i-am-not-a-maker/384767/>
[Accessed 20 June 2016].

Chapman, J. (2005) *Emotionally Durable Design: Objects, Experiences and Empathy*. London, Earthscan.

Charny, D. (2011) *The Power of Making: The Importance of Being Skilled*. London, V & A Museum.

Chin, E. (2016) *My Life with Things: The Consumer Diaries*. London, Duke University Press.

Crang, M., Hughes, A., Gregson, N., Norris, L. and Ahamed, F. (2013) Rethinking governance and value in commodity chains through global recycling networks. *Transactions of the Institute of British Geographers*. 38 (1), 12–24.

Crawford, M. (2010) *The Case for Working with your Hands*. London, Penguin.

Cooper, T. (2005) Slower consumption reflections on product life spans and the “throwaway society”. *Journal of Industrial Ecology*. 9 (1-2), 51-67.

Davies, S. R. (2017) *Hackerspaces: Making the Maker Movement*. Polity Press, Cambridge.

DEFRA (2011a) *Mainstreaming sustainable development: The Government’s vision and what this means in practice*. Department for Environment, Food and Rural Affairs, London.

DEFRA (2011b) *Guidance on applying the Waste Hierarchy*. Department for Environment, Food and Rural Affairs, London.

DEFRA (2013) *Prevention is better than cure: the role of waste prevention in moving to a more resource efficient economy*. Department for Environment, Food and Rural Affairs, London.

De Laet, M. and Mol, A. (2000) The Zimbabwe bush pump: Mechanics of a fluid technology. *Social Studies of Science*. 30 (2), 225–263.

DeSilvey, C. (2006) Observed decay: Telling stories with mutable things. *Journal of Material Culture*. 11 (3): 318–338.

Edensor, T. (2011) Entangled agencies, material networks and repair in a building assemblage: The mutable stone of St Ann's Church, Manchester. *Transactions of the Institute of British Geographers*. 36, 238–252.

Elster, C.H. (2003) Resistentialism. *The New York Times Magazine*. Available from: <http://nyti.ms/165ESdG> [Accessed 11 Feb 2017].

Fickey, A. (2011) 'The focus has to be on helping people make a living': Exploring diverse economies and alternative economic spaces. *Geography Compass*. 5 (5), 237-248.

Gauntlett, D. (2011) *Making is Connecting: The Social Meaning of Creativity, from DIY and Knitting to YouTube and Web 2.0*. Cambridge, Polity.

Gibson-Graham, J.K., Cameron, J. and Healy, S. (2013) *Take Back the Economy: An Ethical Guide for Transforming our Communities*. Minnesota, University of Minnesota Press.

Graham, S. and Thrift, N. (2007) Out of order: Understanding repair and maintenance. *Theory, Culture and Society*. 24 (3), 1-25.

Gregson, N., Crang, M., Ahamed, F., Akhter, N. and Ferdous, R. (2010) Following things of rubbish value: End-of-life ships, 'chock-chocky' furniture and the Bangladeshi middle class consumer. *Geoforum*. 41 (6), 846–854.

Gregson, N., Metcalfe, A. and Crewe, L. (2007) Identity, mobility, and the throwaway society. *Environment and Planning D: Society and Space*. 25 (4), 682-700.

Gregson, N., Metcalfe, A. and Crewe, L. (2009) Practices of object maintenance and repair: how consumers attend to consumer objects within the home. *Journal of Consumer Culture*. 9 (2), 248–272.

Hackney, F. (2013) Quiet activism and the new amateur: The power of home and hobby crafts. *Design and Culture*. 5 (2), 169-193.

Hawkins, H. (2014) *For Creative Geographies: Geography, Visual Arts and the Making of Worlds*. Routledge, Abingdon.

Highmore, B. (2016) Capacious aesthetics (review essay). *New Formations*. 89/90, 234-242.

Hitchings, R. (2006) Expertise and inability: Cultured materials and the reason for some retreating lawns in London. *Journal of Material Culture*. 11 (3), 364–381.

Hobson, K. (2016) Closing the loop or squaring the circle? Locating generative spaces for the circular economy. *Progress in Human Geography*. 40 (1), 88–104.

Houston, L. (2017). The timeliness of repair, *Continent*. 6 (1), 51-55.

Ingold, T. (2009) The textility of making. *Cambridge Journal of Economics*. 34 (1), 91–102.

Ingold, T. (2013) *Making: Anthropology, Archaeology, Art and Architecture*. Abingdon, Routledge.

Jackson, S.J. (2014) Rethinking repair. In *Media Technologies: Essays on Communication, Materiality, and Society*. Ed. Gillespie, T. Boczkowski, P.J., Foot, K.A. Cambridge, MIT Press, 221–240.

Janigo, K., Wu, J. and DeLong, M. (2017) Redesigning fashion: an analysis and categorization of women's clothing upcycling behaviour. *Fashion Practice: The Journal of Design, Creative Process and the Fashion Industry*. 9 (2), 254-279.

Jennings, P. (1950) *Oddly Enough*. London, Reinhardt and Evans.

Kostakis, V., Niaros, V., and Giotitsas, C. (2015) Production and governance in hackerspaces: A manifestation of Commons-based peer production in the physical realm? *International Journal of Cultural Studies*. 18 (5), 555-573.

Kopytoff, I. (1986) The cultural biography of things: Commoditization as process, in *The Social Life of Things: Commodities in Cultural Perspective*. Ed. Appadurai, A. Cambridge, Cambridge University Press, 64–94.

Lepawsky, J, Liboiron, M., Keeling, A and Mather, C. (2017) Repair-scapes, *Continent*. 6 (1), 56-61.

Luckman, S. (2012) *Locating Cultural Work: The Politics and Poetics of Rural, Regional and Remote Creativity*. London, Palgrave Macmillan.

Luckman, S. (2015) *Craft and the Creative Economy*. New York, Springer.

Massey, D. (2013) Vocabularies of the economy. *Soundings*. 54, 9-22. Available from: https://www.lwbooks.co.uk/sites/default/files/s54_02massey.pdf [Accessed 28 March 2017]

Morozov, E. (2014) Making it: pick up a spot welder and join the revolution. *The New Yorker*. Available from: <http://www.newyorker.com/magazine/2014/01/13/making-it-2> [Accessed 6 July 2016].

Napier, A. D. (2014) *Making Things Better: A Workbook on Ritual, Cultural Values, and Environmental Behaviour*. Oxford, Oxford University Press.

Orton-Johnson, K. (2014) DIY citizenship, critical making, and community. In M. Ratto and M. Boler (Eds) *DIY Citizenship: Critical Making and Social Media*. Cambridge, MIT Press, 141-156.

Paton, D. A. (2013) The quarry as sculpture: The place of making. *Environment and Planning A*. 45 (5), 1070-1086.

Pink, S. (2009) *Doing Sensory Ethnography*. London, Sage.

Pink, S. (2013) Prologue: repairing as making. In S. Bond, C. DeSilvey and J. R. Ryan, *Visible Mending: everyday repairs in the South West*. Axminster, Uniformbooks, 13-14.

Rose, G. and Tolia-Kelly, D. (2012) *Visuality/materiality: introducing a manifesto for practice*, in *Visuality/Materiality*. Farnham, Ashgate.

Russell, A. and Vinsel, L. (2017) Let's get excited about maintenance! *New York Times*. Available from: <https://www.nytimes.com/2017/07/22/opinion/sunday/lets-get-excited-about-maintenance.html> [Accessed 15 August 2017].

Schumacher, E. F. (1973) *Small is Beautiful: A Study of Economics as if People Mattered*. New York, Harper and Row.

Sennett, R. (2008) *The Craftsman*. New Haven, CT, Yale University Press.

Shears, J. E. (2014) *Prevention is better than cure, but is there the capacity for it to succeed?* MSc Dissertation, University of Exeter, Penryn Campus.

Spelman, E.V. (2003) *Repair: The Impulse to Restore in a Fragile World*. Boston, Beacon Press.

Thomas, N.J., Harvey, D.C. and Hawkins, H. (2013) Crafting the region: creative industries and practices of regional space. *Regional Studies*. 47 (1), 75-88.

Thompson, M. (1979) *Rubbish Theory: The Creation and Destruction of Value*. Oxford, Oxford University Press, Oxford.

Van Nes, N. (2010) Understanding replacement behaviour and exploring design solutions. In Cooper, T. (Ed) *Longer Lasting Products: Alternatives to the Throwaway Society*. London, Gower, 107-131.